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ABSTRACT

A study determined if pairing children for reading in first grade would have an effect on their reading achievement. The subjects in this study came from one first grade class in a suburban school district. For 6 weeks, one group of emergent readers was paired with more able readers, while another group of emergent readers in the same class was not paired. The two groups were tested before and after the project, using the Iowa Test of Basic Skills Level 6. The average gain of the paired readers was significantly higher than that of the non-paired readers. (Contains 28 references and 7 tables of data. Two appendixes containing study data are attached.) (Author/RS)

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The Effect of a Paired Reading Program on Reading Achievement in a First Grade Classroom

By

Colleen J. Muldowney

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In Partial Fulfillment of the Requirements for the Master of Arts

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ABSTRACT

The purpose of this study was to determine if pairing children for reading in first grade would have an effect on their reading achievement. For six weeks, one group of emergent readers was paired with more able readers, while another group of emergent readers was not paired.

The two groups were tested before and after the project, using the Iowa Test of Basic Skills Level 6. The average gain of the paired readers was significantly higher than the non-paired readers.

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Does pairing children for reading have an effect on either member of the pair's reading achievement in first grade? In a first grade classroom, there is often a combination of different reading levels, including fluent readers, emergent readers and very beginner readers. This situation lends itself well to a paired reading program. Certainly the fluent readers have worthwhile language skills and reading habits to share with the emergent readers. Teachers can give additional individual attention to needy students by utilizing the talents of able students.

Good reading habits and helpful reading strategies are shared with peer partners. Such skills as left to right directionality, use of phonics clues, looking for context clues and word attack are transferred from "more able" readers to "less able" readers. Partners communicate back and forth about pictures and print, while schema is being built. Personal stories and experiences are shared as an extension of the reading.

In addition to academic benefits, there is a potential for social benefits also. Sharing books is a bonding activity that leads to understanding and friendship between two people. Partners in reading share their thoughts, laughter and feelings with each other. Tolerance of peers can happen through this sharing process. "More able"

students acquire patience and "less able" students gain comfort from having someone to assist them.

It is hoped that there will be good results for both partners. Keith Topping (1988) found that confidence and self-esteem were boosted, academic achievement improved, social interactions advanced and more positive attitudes toward reading developed.

Carol A. Leach (1993) paired a group of third graders for reading. A student survey was used, in which "at risk" readers identified "more able" readers in the class and these children were paired as partners for a 16-week period. The California Test of Basic Skills was used as a pre- and post-test to measure achievement.

The objective of a paired reading program is to increase students' opportunity to actively engage in meaningful strategy-based reading practice. Patricia G. Mathes and others (1994) used 35-minute sessions for students to participate in partner reading, predicting and fluency practice. It is an instructional alternative that gives teachers greater flexibility to accommodate diversity.

Jean Gausted (1993) studied one-to-one tutoring programs in various parts of the United States. The result was both emotional and learning benefits for the two partners. The

Companion Reading Program (Salt Lake City, Utah) is an example. These studies show that peers can relate on a cognitive, social and emotional level.

As stated by Lloyd, Crowley, Kohler and Strain (1988), peer tutoring is simple to implement, requires little time and effort from teachers, permits teachers to use their skills efficiently in a practical way to meet the special academic needs of a few children in a class, and is liked by the children.

Hypothesis

To add to the information on this topic, a study was established to determine the effectiveness of pairing children for reading in the first grade. The hypothesis for this study was that children in first grade who are paired for reading show no more gains in reading achievement than children who are not paired for reading.

Procedures

All of the subjects in this study came from one first grade class in a suburban district. Therefore they were of similar socio-economic status since this school draws

children from one locality.

All children in class were given the Iowa Test of Basic Skills Level 6 as a pretest. Reading skills tested were word analysis, vocabulary, reading words, pictures and sentences, word attack and picture stories.

Next, the top six readers were paired with six emergent readers, to form the experimental group. Six random emergent readers formed the control group, whose progress was compared with the emergent readers of the experimental group after the project was completed.

The six experimental pairs read aloud together for thirty minutes on a daily basis. The six children in the control group read alone silently on a daily basis for thirty minutes. All children in the class read books of their own choice for the six week duration of the project.

The children who participated in the paired reading were trained briefly in three areas. First, they were instructed on choosing the correct readability level, and encouraged to let both partners have a say in which books to choose. Second, modeling was used to show both partners how they were expected to share the reading experience. They were told to alternate pages when reading aloud, to help each other with unfamiliar words and to allow time for word attack strategies to take place. Third, they were given notebooks in which to

record new words for practice and they were shown how to record the titles of books read.

After one week of paired reading, a discussion was held to air problems or concerns. Conflict resolutions were suggested and additional strategies were modeled.

Since the control group was reading silently every day before the six week project began, there was no change in their daily routine. They continued to read books of their own choice, however their reading time was extended by fifteen minutes.

The classroom teacher was always present in the room and participating in silent reading as well. If a fluent reader complained about his partner reading too slowly or an emergent reader complained about her partner's book choice, the teacher intervened with a suggestion to help.

At the conclusion of the six weeks, all children were given a posttest to measure their progress. The control group was compared with the experimental group in all reading skill areas.

Results

Table I shows the mean, standard deviation and t test

Table I
Pretest - Word Analysis

Sample	Mean	Std. Deviat:	t test
Experimental	30.00	2.00	
Control	31.33	0.82	-1.51

of the pretests for both samples in the area of word analysis. As indicated, there was no significant difference at the outset of the study.

As can be seen in Table II, there was no significant

Table II
Pretest - Vocabulary

Sample	Mean	Std. Deviat:	t test
Experimental	18.50	2.66	
Control	19.67	4.89	0.51

difference in the pretest scores between the two samples in the area of vocabulary.

Table III indicates that the samples achievement in

Table III
Pretest - Reading

Sample	Mean	Std. Deviat:	t test
Experimental	26.17	3.19	
Control	37.17	6.68	3.64

reading on the pretest was statistically different. The two groups were tested on reading words, pictures and stories and showed a mean difference of ten points in their scores. There was statistical significance below the .05 level.

Table IV shows the results of the posttests for word

Table IV
Posttest - Word Analysis

Sample	Mean	Std. Deviat:	t test
Experimental	32.17	2.32	
Control	32.17	2.92	0.00

analysis between the two samples. The mean gain, as compared with the pretests in Table I, was minimal. At the end of the paired reading project, there was no significant difference in this skill area.

As can be seen in Table V, there was also no significant

Table V
Posttest - Vocabulary

Sample	Mean	Std. Deviat:	t test
Experimental	19.83	2.99	
Control	21.33	4.50	0.68

difference in the posttest scores between the two samples for vocabulary. Compared with the pretest from Table II, it can be seen that there was also little gain.

Table VI illustrates the mean, standard deviation and

Table VI
Posttest - Reading

Sample	Mean	Std. Deviat:	t test
Experimental	44.33	4.08	
Control	48.67	5.43	1.56

t test for the posttest in reading between the two samples. After the completion of the project, there was no significant difference in the samples' scores. A marked gain in "Reading" for the experimental sample is seen when compared to the pretest results (26.17 vs. 44.33).

Table VII shows the average gains realized by the two

Table VII
Mean Gain Difference on Reading Scores of Samples

Sample	Mean	Std. Deviat:	t test
Experimental	17.17	2.81	
Control	11.17	3.60	2.32

Sig. < .05 level

groups after the paired reading project. The average difference between the pretest and posttest for the experimental group was six (6) points higher than that of the control group. This result indicates a more significant gain by the experimental paired reading group.

Conclusion

The hypothesis, that first grade children who are paired for reading would show no more gains in reading achievement than children who are not paired, is rejected. The mean gain difference of six (6) points in reading between the two groups indicates that the experimental paired reading group improved significantly more than the control group.

Although the comparisons of the pretests and posttests between the two groups generally showed no significant differences, the essential area of focus was the mean gain. While the children who were paired with more able readers improved their scores by seventeen (17) points, the single readers improved their scores by eleven (11) points. A portion of this growth can be attributed to the two (2) month age gain

between the date of the pretest and the date of the posttest.

However, during the partner reading many useful skills were shared by the fluent readers, including use of phonics clues, picture clues and context clues. Sight words were increased and self-confidence was boosted. This study, therefore, has shown that partner reading is a worthwhile technique to improve reading abilities in the first grade.

Paired Reading and Reading Achievement:

Related Literature

Peer and cross-age tutoring has deep roots, dating no doubt to prehistoric times. Tutorial instruction (parents teaching their offspring how to make a fire and to hunt and adolescents instructing younger siblings about edible berries and roots) was probably the first pedogogy among primitive societies (Jenkins 1987).

Although peer tutoring was standard practice in many 19th. Century American classrooms, several factors have caused a renewed interest in this instructional method. In the days of the one room schoolhouse, the teacher used it probably because he or she desperately needed help teaching so many diverse ages and abilities. Today educators understand the value of focusing attention on small groups and individual students with the help of peer tutors (Webb, Schwartz 1988).

A growing number of research studies demonstrate the positive outcomes of peer tutoring on student achievement. It has also proven to be an effective method of improving the academic performance of students with English as a Second Language, and of increasing interracial understanding through peer relationships.

Peer tutoring is a cooperative undertaking in which students share not only the answers but the process used to reach the answers (Webb 1988). Lev Vygotsky explored the

notion of learning in social settings. What ultimately becomes our own personal knowledge, he said, starts out as social knowledge. Instead of striving for more individual activities, we should design learning environments for our children that are social -- a natural setting for human learning (Berliner 1988).

Peer tutoring can be defined as "a more able child helping a less able child in a cooperative working pair carefully organized by a teacher" (Topping 1989). There are various kinds of peer tutoring programs. Cross-age tutoring matches up an older child with a younger one. Reciprocal peer tutoring involves the tutor and tutee rotating roles. Using three students to enhance learning has also been tried (Harris 1987). Frequently, children within the same class are paired together for the purpose of sharing and building skills. The use of peer tutored Paired Reading was first reported by Winter and Low (1984). Encouraging results were noted, and since then usage of the approach has grown at great speed.

The Paired Reading technique was originally devised for use by parents with their children at home (Topping 1987). It has subsequently also been successfully used in the adult literacy area, by training spouses and other family members, friends and workmates to tutor students on a regular daily

basis.

There are many benefits of peer tutoring and paired reading for both tutors and tutees. Young people may feel better about themselves and school by having an opportunity to talk about their concerns or problems with others like themselves (support group). Well-designed peer teaching programs can promote academic achievement and personal growth (Hedin 1987). Gray and Tindall (1987) found significant changes in students who were peer counselors, including improved grades and increased maturity. In addition, tutors improve their teaching skills, are more aware of the needs of others, and improve their self-confidence (Correll and Keel 1986).

In Houston, Texas, The National Junior Honor Society middle-school students took part in a peer taping and tutoring program. Each member recorded a chapter of the textbook on tape or performed tutoring services for low achieving students. Recording the textbook provided excellent academic reinforcement of prior learning, required them to check hard to pronounce vocabulary and was, in effect, a refresher course. They demonstrated an amazing capability to put difficult concepts on the right level and a generosity in sharing short-cuts that worked for them. They found a balance between talent and service and learned that

giving of oneself can be personally enriching. Of course, the low-achieving students enjoyed and profitted from the help they received in the subject areas (Regner 1988).

Joellen Harris (1987) reports about a peer tutoring model which groups three remedial students. The primary goal is constructive social interaction and the secondary goal is academic achievement. Students feel an increased desire to learn, their interest in the material is heightened and their sense of self-worth grows tremendously. When students are having trouble learning, allowing them to teach may be just the incentive needed to turn the corner toward success.

Kay Vetter placed her fourth graders in partnerships for math and taught them to verbalize their thinking processes with each other. The benefits were increased understanding of concepts and decreased feelings of frustration and defeat.

Some of the intuitive merits of peer tutoring include pacing that is tuned to the individual student's rate of mastery, intensive practice for those who need it, and achievement and personal benefits to the tutors themselves (Jenkins 1987).

Recent cost-effectiveness research indicates that peer tutoring yields greater achievement per dollar than other popular educational innovations (Levin 1984). Researchers found that it produced more than twice as much achievement

when costs were compared with computer-assisted instruction, reducing class size or lengthening the school day (Jenkins 1987).

In the Lake Washington School District (Kirkland, Washington) students who tutor benefit academically from the experience (Cohen 1982), but also gain "social maturity" through responsibilities that affect the lives of others. Explaining the subject matter to others helps tutors better understand it themselves (Webb 1988).

Many teachers can immediately see the value of extra reading practice in the one-to-one situation for weaker readers, but they will be concerned about the tutor wasting time. This anxiety is totally without foundation. All the major research reviews on the effectiveness of peer tutoring in reading have shown that the tutors accelerate in reading skill at least as much as, if not more than, the tutees (Sharpley and Sharpley 1981). In addition, a number of studies have found evidence of more positive self-concept in both tutors and tutees, improved social relationships within the pair, and improved attitudes toward reading. There is clear evidence that children with learning and behavior problems can benefit greatly from acting as tutors (Topping 1988).

Peer tutoring has the advantage that the children

usually like it, and it is often their most preferred part of the day. It involves learning that is cooperative, active, interactive, and it is characterized by very high rates of time on task (Topping 1988).

The Paired Reading technique allows for tutees to be supported through texts of higher readability levels than they would be able to read independently, thereby ensuring adequate stimulation and participation by the tutor. The interaction between a vast majority of pairs is usually positive and good relationships endure beyond the tutoring situation. Social skills and positive attitudes are developed in both tutors and tutees, in addition to the gains in attainment accruing to both members of the pair (Topping 1989).

The tutee receives immediate feedback from the tutor in the case of a reading error and reinforcing praise when performance is good (Berliner 1990). There is evidence that for some children the experience of Paired Reading has a significant long-term qualitative effect on reading style. Paired Reading serves to ensure that extra time allocated for reading actually results in extra time engaged in reading (Topping 1989).

Louis Martino describes the peer tutoring program at Parsons High School (Parsons, Kansas) and counts the

intangible gains as the most important. Students not only improve their grades, they also develop a more positive attitude toward school, a greater sense of achievement and an increased self-confidence.

Learners identify more easily with peer tutors than with adult authority figures (Webb 1988). Evidence has shown that modeling is an important dimension of peer tutoring. School children learn by observing their adult teachers, but observation of peer models may better enhance children's self-efficacy. They find it easier to try to emulate a peer than a teacher perceived to be much more competent. Both members of the pair develop a better understanding of and respect for each other's differences also (Webb 1988).

Dozens of studies show positive and substantial effects of peer and cross-age tutoring. Now we also know that, in comparison with other innovations, tutoring is theoretically sensible and more powerful (Berliner 1988).

Peer tutoring and paired reading offer many benefits to the teacher as well as to the students. Tutoring sessions can be fitted easily into classroom routine without a great deal of preparation. They can be alternated with other reading activities such as sustained silent reading. Peer tutoring is easy to set up because the pairs are always on hand and regularity can be ensured. It is easy to monitor

the technique being used by the tutors, and to correct any faults or problems. The project incurs no extra expenditure of money and relatively little extra in terms of teacher time. Best of all, peer tutoring provides an opportunity to multiply teacher effectiveness, enabling them to better target their efforts toward individual students (Webb 1988).

Although the advantages of peer tutoring paired reading far outweigh the problems, it is important for the teacher to be aware of potential difficulties before undertaking the project. Noise and activity levels will rise and may prove distracting for other pupils. With young children or those of limited ability, the quality of tutoring may leave a good deal to be desired. Close monitoring is necessary to avoid misinformation being given and for accountability purposes. Some tutors may too readily assume an over-dominant and authoritarian role with their tutee, thereby creating conflicting relationships. Teachers must know that a normal aspect of tutoring interactions will be occasional child disputes.

Not all pairs will be perfectly matched the first time, even with very careful selections. Parents may misunderstand the purpose and methods of the project and complain. Unless carefully monitored, some tutors may become bored (Topping 1989). Another potential problem is that student tutors may

not completely understand the material to be taught. Cohen suggests assessing potential tutors' comprehension before assigning them to tutor. However, a tutor need not be an excellent student, especially in the case of cross-age tutoring. A sixth grader operating at a fourth grade level can be an excellent helper of a second grader who is also operating below grade level (Gaustad 1993).

One other drawback of peer tutoring is that tutees, often labeled as less capable than tutors, tend to resist being tutored by agemates. The Companion Reading Program avoids that status problem by having classmates take turns tutoring and being tutored (Gaustad 1993).

Finally, teachers interested in peer tutoring must be willing to relinquish absolute control over instruction (Casanova 1988) and this is not easy to do.

There are three important factors in a successful tutoring program. First, the most essential factor is the careful selection of tutors and tutees. Tutor selection is most frequently conducted based upon teacher judgement or by test information on the task to be tutored. The optimal academic tutor has typically been one who has mastered the skill to be taught and who has the social skills necessary for the role (Greenwood 1988). In one classwide program,

Heward, Heron, Ellis and Cooke (1986) pretested an entire class on a domain of sight words. The highest scoring half of the class was designated the tutors, the lowest scoring half the tutees. The highest scoring tutor was paired with the highest scoring tutee in descending order. These same pairings remained in effect up to five months, allowing for consistency of instruction.

In another program reported by Delquadri, Greenwood, Stretton and Hall (1983) students were randomly paired on a weekly basis. The advantage of this method lies in its flexibility, exposing all children to each other over a period of time and preventing student boredom resulting from long-term tutor/tutee relationships.

Some say mixed race/ethnic pairings are good, while others say two students with similar backgrounds will have more positive outcomes. In the Reader Pals program, Ayres and Wainess stress the importance of matching children sensitively and keeping in mind sex, general personality, dependability, adjustment to school and reading ability. Consistent interaction with the same Pal is necessary to establish rapport.

A two year differential in ability levels between the students is generally recommended. Also, pairing pupils who already have strong positive or negative relationships is

inadvisable. Take care not to pair particularly weak and strong personalities (Topping 1989).

A very interesting report by Topping and Whitely (1988) analyzed 15 Paired Reading project results. Mixed sex pairings proved to be good for the tutors but poor for the tutees. Female-female pairings were good for the tutees but poor for the tutors. However, male-male pairings had very positive effects for both.

Neither the nature of the child being tutored nor the characteristics of the tutor seem to matter as much as the sense of "mutual reward," some of which may be intrinsic to the tutoring process (Webb 1988).

The second factor is tutor training. Teachers use modeling to prepare tutors for their roles as teachers, showing them appropriate instructional strategies (Casanova 1988). Although gifted students are often chosen to be tutors, they need to be shown how to communicate and share their knowledge with others (Haertig 1988).

At the Lake Washington School District tutors learn interpersonal skills that enable them to relate to their tutees. They learn positive verbal and nonverbal communication skills (active listening, conversing and praising good effort), how to give clear directions and

confirm correct responses. They learn not to overprompt and show impatience, annoyance or disappointment. If needed, they may be taught questioning techniques and specialized teaching procedures (Jenkins 1987).

For Paired Reading, the tutoring pair needs to be taught simple readability checking strategies in order to enable them to choose books within the competence of the tutor (Topping 1989).

Harris suggests making charts with words of praise and positive remarks for tutors to use. Body language is also part of training and there should be no yawns or sighs. Students heard using positive words of encouragement should be rewarded by the teacher.

The middle school peer helping program, reported by Foster and Tindall 1992, provides training in the areas of communication skills, leadership skills, behavior management and content skills, and is ongoing throughout the year.

Neidermeyer (1970) demonstrated that trained students performed more of the specific tutoring tasks, more reliably and accurately than did untrained tutors.

The third factor is management and assessment. The teacher must monitor the peer tutors and evaluate their progress regularly. The tutor may be required to record

their progress in terms of material read and positive aspects of tutee behavior. Some form of evaluation may be built into the project, however the most important form of evaluation lies within the feelings of the pair. After the initial period of the program, a major feedback meeting should be held with all participants (Topping 1989).

Keeping tutors motivated is a challenge. The most important reinforcer is personal attention from the teacher in the form of discussions, accomplishment reports, verbal praise or pair photographs displayed. Jenkins reports that active supervision helps keep tutors and tutees interested and leads to higher achievement. When students know that their progress is being measured every day, they are less likely to drift off-task.

During the tutoring session, the teacher should remain in the room and circulate among the groups. Monitoring should be inconspicuous. (Casanova 1988).

It is essential now, after reviewing the many research reports on peer tutoring and Paired Reading, to consider the academic results.

Keith Topping reported outcome data from 10 projects in which tutees ranged in age from 8 to 14 years and the tutors from 8 to 18 years. During the intensive period of the

project, the tutees gained in reading age at 3.8 times "normal" rates (assuming one month of reading age gain in one chronological month to be "normal"). The tutors gained 4.3 times normal rates.

Slavin, Madden and Leavey (1984) report that students who have spent an academic year involved in cooperative learning and classwide peer tutoring have outdistanced their peers in non-intervention classrooms by achieving grade equivalent gains of one half year or more.

In 1989 the results were published of a four-year longitudinal study of a Classwide Peer Tutoring (CWPT) program. CWPT was a highly structured tutoring program aimed at improving instruction for Chapter I classes serving disadvantaged children. The tutor and tutee reversed roles every session. After four years, the at-risk students in the experimental group exceeded or approached the national norms for fourth graders, and scored 10 percentiles higher than the matched control group.

The tutoring program at Parsons High School (Kansas) produced an average gain of .67 in students' grade point averages (Martino 1993). Decades of research have established that well-planned peer tutoring programs can improve student achievement and self-esteem as well as overall school climate.

Of course, many other techniques with similar advantages are waiting to be discovered. One obvious possibility is the creation of a systematic curriculum of reading games, which are carefully structured for peer tutorial use to ensure mutual benefit while maximizing levels of enjoyment. Perhaps the most important skill in teaching is to make work seem like fun, and if this can occur in a social context that is both conducive to effective learning and intrinsically socially rewarding, learning may become a much happier experience for all concerned. As Baltasar Gracian put it in 1647: "Make your friends your teachers and mingle the pleasures of conversation with the advantages of instruction." (Topping 1989)

References

Ayres, Linda and Wainess, Didi. Reader Pals, Instructor, Vol. 99, No. 1, (August 1989), pp. 22-24.

Berliner, David and Casanova, Ursula. Peer Tutoring: A New Look at a Popular Practice, Instructor, Vol 97, No. 4, (January 1988), pp. 14-15.

Berliner, David and Casanova, Ursula. The Case For Peer Tutoring, Instructor, Vol. 99, No. 8, (April 1990), pp. 16-17.

Cohen, P.A., J.A. Kulik and C.C.Kulik, Educational Outcomes of Tutoring, American Education Research Journal, Vol. 19, (February 1982), pp. 237-248.

Correll, J., and Keel, L., A Field Study of Helping Relationships in a Cross-Age Tutoring Program, Elementary School Guidance and Counseling, (April 1986).

Foster, Elizabeth S. and Tindall, Judith A., Establishing a Peer Helping Program...Step by Step, Schools in the Middle, Vol. 2, No. 2, (Fall 1992), pp. 40-44.

Gaustad, Joan. Peer and Cross-Age Tutoring, Eric Digest, No. 79, (March 1993), pp. 1-3.

Gaustad, Joan. Peer and Cross-Age Tutoring, Emergency Librarian, Vol. 21, No. 1, (Sept./Oct. 1993), pp. 34-35.

Greenwood, Charles R. and al. The Use of Peer Tutoring, Strategies in Classroom Management, School Psychology Review, Vol. 17, No. 2, 1988, pp. 258-275.

Greenwood, C.R., Delquardi, J.C., & Hall, R.V., Longitudinal Effects of Classwide Peer Tutoring, Journal of Educational Psychology, Vol. 81, (1989), pp. 371-383.

Haertig, Martin, F., Students as Teachers, Gifted Child Today,, Vol. 11, No. 2, (March/April 1988), pp. 33-35.

Harris, Joellen, Using Three Students to Enhance Learning in Peer Tutoring Groups, Techniques: A Journal for Remedial Education and Counseling, Vol. 3, No. 2, (April 1987), pp. 125-127.

Hedin, D., Students as Teachers: A Tool for Improving School, Social Policy, (Winter 1987).

Heward, W.L., Heron, T.E., Ellis, D.E., & Cooke, N.L., Teaching First Grade Peer Tutors to Use Verbal Praise on an Intermittent Schedule, Education and Treatment of Children, Vol. 9, (1986), pp. 5-15.

Jenkins, Joseph R., & Jenkins, Linda M., Making Peer Tutoring Work, Educational Leadership, Vol. 44, No. 6, (March 1987), pp. 64-68.

Johnson, Donna, ESL Children as Teachers: A Social View of Second Language Use, Language Arts, Vol. 65, No. 2, (February 1988), pp. 154-163.

Levin, H., G. Glass, and C. Meister. Cost-Effectiveness of Four Educational Interventions, Institute for Research in Educational Finance and Governance, Stanford University, Stanford, Ca., (1984).

Martino, Louis R. When Students Help Students, Executive Educator, Vol. 15, No. 1, (January 1993), pp. 31-32.

Neidermeyer, F.C. Effects of Training on the Instructional Behaviors of Student Tutors, The Journal of Educational Research, Vol. 64, (November 1970), pp.119-123.

Regner, Darla. Peer Taping and Tutoring Program: A Service Project, Middle School Journal, Vol. 19, No. 4, (July 1988), pp. 34-35.

Sharpley, A.M. and C.F.Sharpley. Peer Tutoring -- A Review of the Literature, Collected Original Resources in Education, Vol. 5, No. 3, (1981), pp. 7-C11.

Slavin, Robert E. Student Team Learning: A Practical Guide to Cooperative Learning, Washington, D.C.: National Educational Association, (1991), ED 339 518.

Thomas, Robert L. Cross-Age and Peer Tutoring, ERIC Digest, 1993, pp. 1-3

Topping, Keith. Peer Tutoring and Paired Reading: Combining Two Powerful Techniques, The Reading Teacher, Vol. 42, No. 7, (March 1989), pp. 488-494.

Vetter, Kay. The Learning Connection: Talk-Throughs, Arithmetic Teacher, Vol. 40, No. 2, (November 1992), p. 168.

Webb, Michael, & Schwartz, Wendy. Children Teaching Children: A Good Way to Learn, PTA Today, Vol. 14, No. 1, (October 1988), pp. 16-17.

Webb, Michael. Peer Helping Relationships in Urban Schools, Equity and Choice, Vol. 4, No. 3, (Spring 1988), pp. 35-38.

Winter, Sam, and Alan Low. The Rossmere Peer Tutor Project, Behavioral Approaches With Children, Vol. 8, (Summer 1984), pp. 62-65.

APPENDICES

APPENDIX A

Experimental Sample Test Scores

Word Analysis

Student Number	Pretest Total	Posttest Total	Difference Between Totals
1	31	32	1
2	28	32	4
3	29	31	2
4	27	29	2
5	33	36	3
6	31	33	2

Vocabulary

1	20	21	1
2	16	19	3
3	22	17	-5
4	18	23	5
5	15	16	1
6	20	23	3

Reading

1	27	42	15
2	24	43	19
3	28	41	13
4	27	41	14
5	30	49	19
6	27	50	23

APPENDIX B

Control Sample Test Scores

Word Analysis

Student Number	Pretest Total	Posttest Total	Difference Between Totals
1	32	31	-1
2	30	29	-1
3	31	30	-1
4	32	34	2
5	32	33	1
6	31	32	1

Vocabulary

1	24	27	3
2	25	26	1
3	23	20	-3
4	17	21	4
5	14	15	1
6	15	19	4

Reading

1	42	54	12
2	46	55	9
3	30	43	13
4	29	46	17
5	37	46	9
6	39	46	7